

# FIBRE FRAGMENTS FROM THE RAUPA SITE, HAURAKI PLAINS

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*Abstract.* Archaeological excavations at Raupa, near Paeroa, in 1988 uncovered the charred remains of Maori fibrework dating from the early 19th century. Represented are rain capes, plaited pieces, and possibly a korowai cloak. Interpretation has depended upon similar fibre pieces recovered from dry cave environments in the Waitakere Ranges near Auckland. The Raupa material adds to the small quantity of Maori fibrework from securely dated archaeological contexts.

Excavations at the Raupa site (T13/13) near Paeroa during January and February 1988 (see Prickett 1992), uncovered the carbonised remains of twined fibre, assumed to be fragments of Maori rain-capes, and some small pieces of twilled plaitwork. These fragments were subsequently conserved by Dilys Johns at the Anthropology Department, University of Auckland, archaeological conservation laboratory. The fragments almost certainly date from *ca.* 1820 and so offer knowledge of Maori fibre working techniques during an important period of change some fifty years after effective European contact.

## CONSERVATION OF THE FIBRE

The carbonised state in which the fibre was found had helped preserve the remnants in the ground but made them very brittle so that they threatened to disintegrate once dry. Some of the fragments were treated in the field with 6% w/w Rhoplex/water. Rhoplex is an acrylic emulsion which was used to consolidate the surface of the damp fibre. These pieces were then dried slowly in the field. In the laboratory, after cleaning, the fragments were further consolidated with 7% Paraloid B72/acetone. Paraloid B72 is an acrylic resin which penetrates into the structure of the dried fibre fragment to consolidate the whole piece rather than just the surface. Material brought back as matrix and fibre for excavation in the laboratory was treated with 6% Acrysol WS 24/water (dispersal emulsion) and then with 7% w/w Paraloid B72/acetone as above (Dilys Johns pers. comm.).

After treatment the fragments were reasonably firm and could be handled with care. Analysis of the fragments was based on their appearance at this stage and from field notes and diagrams provided by Dilys Johns.

## ANALYSIS AND INTERPRETATION

Initial inspection of the fragments revealed differences in construction techniques and treatment of the fibre indicating that the assorted pieces represented more than one garment. Location notes and diagrams showed that a range of the material was excavated in association with a large wooden bowl in a shallow pit in Area VII (see Prickett 1992: Fig. 17). These pieces included small remnants of twined kaupapa (groundwork of cloak), some plain and some tagged on one surface, braided edges and collar fringes, short lengths of cord and some small fragments of plaitwork. A more limited range of material was also found in Area X (see Prickett 1992: Fig. 17).

Analysis of the Area VII material and the placement of fragments in relation to each other led to the conclusion that they represent two garments, probably cloaks, which had been inside and over the rim of the bowl, with another garment below the bowl and one or more plaited items inside the bowl and below it. Here they were all burned *in situ* in a shallow pit. One other garment was found, also burnt, in Area X. The fire accounts for the fragmentary nature of the remnants and their carbonised state. The bowl (which may have been damp or even have contained liquid) appears to have provided some protection from complete disintegration.

### *Construction techniques*

The term 'twining' is used in the context of this report to refer to the technique known as whatu, traditionally used to manufacture Maori cloaks and some other items. 'Plaitwork' refers to the raranga technique commonly used to make kits, mats, belts and a number of other articles (see Connor 1983:209, for a summary of differences between weaving, plaiting and twining).

In order to identify and describe the material a selection of fragment samples were divided into five groups to represent the five different items mentioned above. Selection for each group was based on *in situ* location, construction technique and appearance of the fibre. Fragments compatible with cloaks, for example plied cords, were included within the groups with which they were found. Where the technique used was whatu (twining) the material has been classed as 'cloak fragments' as a general descriptive term. This does not exclude the possibility that they may represent more specific garment types such as maro, piupiu, rapaki or pihepihe, all of which had features in common with rain capes and korowai during the early 19th century (Pendergrast 1987:116-119).

Fragments in which the technique used was raranga (plaitwork) have been classed as a separate group even though pieces were found in close association with cloak fragments.

Initial analysis of the material (Lander 1988) has since been modified and informed by working closely with a range of fibre artefacts collected from caves and shelters in the Waitakere Ranges and held at Auckland Museum (Lawrence 1989). Many of the features present in the Raupa fragments were also evident in the Waitakere material. This helped considerably in building up a coherent picture of items from which the Raupa fragments may have come.

*Group 1: transitional rain cape/korowai?*

The fragments in this group were excavated from inside and over the rim of the wooden bowl in Area VII. They include braided neck edge pieces and a number of small pieces of twined kaupapa (Figs 1-3). There is evidence of kokowai (red ochre) staining on some of the material.


The whenu (warps) are of muka (flax fibre) which has been softened by beating with a patu muka (stone pounder). This has given the fibre a slightly broken surface with less distinct individual strands than unbeaten fibre.

The strands used as tag attachments on the kurupatu (collar fringe) have remnants of leaf surface still adhering to them indicating that they were more likely to have been made from strips of whole flax leaf which may have been lightly scraped. In time these may have gradually broken down and become more fibrous, as seen in some raincapes in museum collections. The Group 1 kaupapa pieces do not show any evidence of tag attachment to either surface (Fig. 3).

The twining technique is aho patahi (single pair twining) using aho (wefts) of two-ply rolled muka cord. The weft rows are spaced 15-20 mm apart and there are four or five wefts per 10 mm. The whenu do not appear to have been twisted into two-ply cords. The whiri (braid) on the neck edge looks like a five-stranded flat braid. There is a substantial amount of red ochre on the inside of the neck edge and on the braid, but only small traces on the outer fringe.

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Fig. 1. Group 1: neck edge and kaupapa (base) - inside surface showing single pair twining (whatu aho patahi).



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Fig. 2. Group 1: outside surface of the right-hand fragment in Fig.1. Flax tags have been attached to form a collar fringe (kurupatu).




Fig. 3. Group 1: kaupapa fragment with no evidence of tag attachment.

It is difficult to classify this group as remnants from a rain cape because of the absence of tags on many of the fragments. From the evidence it appears to have been a kurupatu and a plain kaupapa similar to one depicted by the mid-19th century artist George French Angas (1972: Pl. 9). Another possibility is that it belonged to a transitional korowai type in which tags similar to rain tags, or thrums of rolled cord, were attached intermittently over the surface of the kaupapa for decorative effect. Transitional cloaks of this type were found in caves and shelters in the Waitakere Ranges (Lawrence 1989:103-108).

From the distribution of red ochre on the inside of the fragments it appears that kokowai may have rubbed off onto the cloak from the body of the wearer. Captain Cook visited the Hauraki area at the end of November 1769 and left this description in his journal:

“The Natives resideing about this River do not appear to be very numerous, considering the great extent of Country, at least not very many came off to the Ship at one time and as we were but little a shore ourselves we could not so well judge of their numbers. They are a strong, well made active people as any we have yet seen and all of them paint their bodies with red Oker and Oyle from head to foot, a thing that we have not seen before.”

(Beaglehole 1955:210)

#### *Group 2: rain cape*

The fragments in this group were also excavated from inside the wooden bowl, but nearer the bottom of it. They include pieces of tagged kaupapa and a short length of square neck braid with fringe (Fig. 4).

The whenu appear to be unbeaten muka similar in appearance to the strands in the neck braid which was probably formed from the ends of the whenu. After being taken into the whiri the whenu ends were discarded to form part of the collar fringe. The flax tags on the kaupapa are matted and fibrous with fragments of leaf surface still adhering to them (Fig. 5).

The twining technique is aho rua or double pair twining (Fig. 6), a method still favoured by Maori cloak weavers. There are three whenu per 10 mm. The method of attachment of the rain tags cannot be determined without damage to the fragments. A common method of tag attachment is for the scraped muka ends of the tags to be incorporated into the kaupapa as the work progresses. This method is often combined with adding doubled hieke-type tags to the weft rows (Pendergrast 1987:85).

The square neck braid was of particular interest because I had not then seen anything similar in the Auckland Museum collection. After much trial and error I was able to make a reconstruction of the eight-stranded whiri and sent it to Diggeress Te Kanawa, a noted Maori weaver, for her comments. She replied stating that neither she nor her mother, Rangimarie Hetet, had ever seen or used this particular edge braid. She sent me back another reconstruction which she had made in which the method differed from mine but the overall effect was similar. Later, when I was photographing the Waitakere material I came across two more examples of the square braid, in particular on the cloaks from Karekare (Fig. 7).



Fig. 4. Group 2: neck edge with eight stranded square braid.



Fig. 5. Group 2: kaupapa piece showing tagged outside surface.

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Fig. 6. Group 2: double pair twining (whatu aho rua) on the inside surface.

Fig. 7. Detail of the eight stranded edge braid (whiri) on a flax tagged raincape found at Karekare, Waitakere Ranges (Auckland Museum).

*Group 3: rain cape*

The material excavated from below the wooden bowl was brought back to the university as matrix and fibre for excavation in the conservation laboratory. The fragments included some comparatively large pieces of kurupatu, smaller pieces of tagged kaupapa and two short lengths of two-ply cord. There were also small fragments of raranga (plaitwork) intermixed with some of the cloak kaupapa pieces (Fig. 8).

Initial investigations using a microscope showed that while most of the fibre appears to be flax (*Phormium tenax*), there may be also some kiekie (*Freycinetia banksii*). More stringent tests would need to be done in order to identify the fibre accurately.

Single pair twining (aho patahi) was used to construct the kaupapa which has the coarse appearance and wide spacing between weft rows typical of many rain capes in museum collections. The neck whiri is similar in neatness and tension to the other two found in this area, perhaps all made by the same cloak maker. The kurupatu differs from the others however in that there is no evidence of attachment to the kaupapa of the cloak. The method of construction has not been determined as further investigation would damage the fragments. It appears that lengthy doubled-over fringe strands were added into the whiri during the braiding process (Fig. 9). The single weft row of aho patahi indicates that whenu may have been incorporated into the whiri and discarded out again before being caught into a final weft row and trimmed. If this was the case then the rest of the kaupapa has either rotted off or been cut away. There was no evidence of it at the time of excavation (Fig. 10). One of the Karekare cloaks (Lawrence 1989:108) has a kurupatu which had been stitched on to the kaupapa (or perhaps repaired) with a running thread of plied muka (Fig. 11).

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Fig. 8. Group 3: collar fragment of raincape intermixed with a small piece of plaitwork (raranga).




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Fig. 10. Group 3: weft row of whatu aho patahi just below braid.

It is probable that the tags were a mixture of single tags added in to the kaupapa, and doubled over hieke-type tags added on top to increase the thatch effect. One fragment actually shows evidence of the hieke-type tag attachment (Fig. 12).

The Group 3 fragments may represent a cloak similar to the hieke or tatara examples in the Auckland Museum collection (Pendergrast 1987:85-86). The kurupatu remains a mystery in that its method of construction and attachment have not been determined. It could have been cut away deliberately and used as a separate piece over the top of the cloak. I have discussed these possibilities with experienced Maori artists Digger Te Kanawa, Toi Maihi and Paki Harrison, all of whom were as puzzled as I was by the pieces.

The tau (fastening cord) is made from two-ply muka (Fig. 13) rolled on the leg. The Z-twist is formed by rolling the two strands separately in a move away from the body (if using the right hand) and bringing the strands together in the movement back towards the body. The tau may have been incorporated into the whiri for extra strength, as in the Karekare example (Fig. 7).



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Fig. 11. Kurupatu stitched or mended on to the kaupapa of a cloak from Karekare, Waitakere Ranges (Auckland Museum).

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Fig. 13. Group 3: two-ply fastening cord (tau).

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Fig. 15. Group 4: edge braid with a small piece of knotted two-ply cord attached.

*Group 4: rain cape*

A small selection of fragmentary fibrous material from Area X included tagged kaupapa, a small length of whiri and a length of knotted cord, or tau (Figs 14-16). The material is more fragmentary than that of the other groups and pieces that remain are matted and decomposed. From what I can discern the material used in the kaupapa and whiri is flax, prepared in the manner appropriate for rain cloak manufacture i.e. flax tags with scraped muka ends incorporated into the kaupapa. The construction technique is aho patahi, similar to the Group 3 fragments. There are three or four whenu per 10 mm and the weft rows are spaced 30-40 mm apart. The whiri appears to be a five-ply braid, somewhat looser in tension than the Group 1, 2 and 3 braids, and so possibly made by a different cloak maker.

The presence of a small section of finer two-ply which has been knotted to itself (Fig. 15) may indicate that the kurupatu had been stitched or mended on to the kaupapa as discussed earlier in reference to the Group 3 pieces. The tau (fastening cord) is four-ply, made by rolling two two-ply strands together. The flax fibre used in the tau has a finer texture and may have come from a different flax plant (some have finer fibre than others), or have undergone some softening treatment - either pounding or rubbing.

Although the material evidence is somewhat scanty and decomposed there are enough features consistent with rain cloak manufacture for the assumption to be made that this was a rain cape of some type, perhaps similar to the Group 3 rain cape.

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Fig. 16. Group 4: four-ply fastening cord (tau) which has been knotted in the centre.

### *Group 5: raranga (plaitwork) fragments*

An assortment of small pieces of raranga was found inside the wooden bowl in Area VII (Figs 17 and 18). They represent one or more plaited items which had been with the Group 1 and 2 cloaks at the time of the fire. A much smaller piece of raranga was intermixed with Group 3 cloak fragments.

The material is flax leaf split to ca. 30-60 mm. Some may have been split again as work progressed, as sometimes happens in raranga. The most intact of the pieces show twilled plaitwork indicating a pattern of some kind in which strips pass over two or more strips of the opposite orientation at a time.

It is not possible to say with any certainty what item or items the raranga pieces represent. They could be remnants from kete (kits) or whariki (mats). However, there was no evidence of edge braiding or handles to indicate kete, and the sparseness of the fragments suggests items smaller than whariki. This does not rule out the possibility that they were smaller pieces of matting which were sometimes cut up and put to a variety of uses, for example wrapping.

From studying the items found together in the Waitakere sites it seems likely that the Raupa raranga pieces could be the remnants of tatau (belts), although among Waitakere material small pieces of matting were also found in association with cloaks. The Waitakere examples (Lawrence 1989:110-113) were all made of twilled plaitwork similar to those in the Raupa fragments (Figs 19 and 20).

## CONCLUSION

Analysis of the Raupa fibre fragments has focussed primarily on interpreting the pieces from a cloak-maker's perspective. To this end I attempted to reconstruct one of the techniques no longer used by cloak-makers, the eight-stranded neck edge whiri. This was rewarding in that this knowledge was then able to be passed back to Digger Te Kanawa who is a well known teacher of cloak making skills. For me this made the whole project worthwhile: matauranga tuku iho na nga tupuna.

Initial research into the Raupa fragments was modified and reinterpreted after comparison of the material with cloaks and other items found in the Waitakere Ranges. It was then possible to build up a much better picture of the appearance of the Raupa items when whole. The Raupa fibre fragments thus have provided a rich source of information about the fibre working skills of the past.

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Figs 17-18. Group 5: plaitwork found in matrix with Group 1 raincape fragments.

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Figs 19-20. Plaited flax belt (tatua) found in a shelter at Piha, Waitakere Ranges  
(Auckland Museum).



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